INTRODUCTION

The motor vehicle is an integral--and virtually indispensable--element of modern American lives and lifestyles. It, and the sophisticated highway transportation system developed to support its safe and efficient use, have allowed people to enjoy a hitherto impossible degree of mobility. This cherished freedom of mobility has opened new and varied occupational, educational and social opportunities for all Americans. However, the personal and societal benefits of "The Automobile Age" have proved a mixed blessing.

Freedom of mobility has not come free. Rather, the cost has been--and continues to be--high. More Americans have been killed or injured in traffic crashes than in all the wars ever fought. And, traffic crashes remain the single greatest cause of accidental death in America today--claiming 45,000-50,000 lives annually. Each year, another nearly two million Americans suffer disabling injuries from traffic crashes. The total societal cost of these and less severe highway crashes is estimated to exceed $45 billion annually.

A concerted effort to reduce this toll has been underway for decades. Government, industry and other sectors of society have combined to make cars and roads safer than ever before. Yet progress in these areas--making vehicles more protective and crash resistant, building safer highways and implementing sophisticated traffic flow systems--appears to have reached the point of diminishing returns. Surely advances in the "hard technology" of transportation system components will continue to be made, enhancing the safety and efficiency of the highway transportation system. But today, the driving factor most in need of improvement--and with the greatest promise in terms of accident reduction and prevention--is no longer the vehicle or the transportation environment but the driver.

A two-pronged approach has been taken to upgrade driver performance and, thus, enhance the safety and efficiency of the entire highway transportation system. One avenue of approach has been driver control, a function shared by law enforcement and licensing agencies who grant and--with cause--restrict or remove the driving privilege of operators who demonstrate an unwillingness or inability to drive safely. Complementing driver control activities are driver education efforts. Education programs enabling and motivating people to drive safely also are conducted by various organizations, e.g., state driver improvement agencies and civic associations. However, by far the greatest effort expended in this area is that provided by driver and traffic safety education teachers in our nation's secondary schools.

WHY DRIVER EDUCATION?

High school driver and traffic safety education is one of the most promising means of reducing significantly the human and societal costs of highway accidents. Secondary school driver and traffic safety education programs reach more than two million young people annually, providing them more than 100 million hours of instruction. Driver education reaches its youthful audience at an optimal time at the onset of their driving careers, before students have developed unsafe driving habits.

A key strength of this delivery system is the deliverers themselves--professional educators specializing in this unique discipline and, typically, dedicated to their chosen profession. By training and temperament, these individuals are prepared and eager to provide their students with experiences that will help them develop the knowledge, attitudes and skills that make possible a lifetime of safe driving.

As traffic crashes are the leading cause of death among school children and young adults, preparing students to survive their entry into the transportation system is essential. Unless they are equipped with these necessary survival skills, many young people will fall prey to their hazardous environment before having an opportunity to apply their other education-engendered knowledges and skills to the betterment of society. Thus, the essential goal of driver and traffic safety education is a fundamental goal of education in general.

Driver and traffic safety education can accomplish much beyond this primary consideration in terms of the personal growth and development of students. A comprehensive driver and traffic safety education course also will help students enter adulthood as informed, conscientious citizens and consumers--able to make intelligent, responsible decisions about how they will live and how they will cope with life's problems so that their personal interests and those of society in general are best served.

STATE EFFORTS TO IMPROVE DRIVER EDUCATION

The State of Iowa has long recognized the benefits to be realized from high quality driver education programming. Regarding quality driver and traffic safety education as intrinsic to the total school curriculum, the state has acted consistently to assure that its driver and traffic safety education programming is planned, developed and implemented to attain specific, critical objectives in conformity with general education goals and practices.

In 1975, the Department of Education developed the Program Research in Driver Education (P.R.I.D.E.) curriculum to help classroom teachers prepare and conduct their programs effectively and efficiently. Since the P.R.I.D.E. Student Guide was published, many important advances have been made in the field of driver and traffic safety education. Today, there is a fuller appreciation of the knowledges, attitudes and skills most lacking--and most necessary to instill--among young drivers. And, there is a much fuller understanding of the educational methods needed to develop these knowledges, beliefs and performances most effectively.

This Guide has been developed for use by professional educators interested in upgrading the quality and effectiveness of driver and traffic safety programs being offered in their schools. It has been prepared specifically for use by administrators and teachers of secondary school age students.

ABOUT THIS GUIDE

The "heart" of this document is the "Curriculum Units" section, capable of guiding 30 hours of classroom instruction. This section presents course objectives, contents and teaching methods drawn from state-of-the-art research in a straightforward, practical style. It also identifies teaching aids essential to support instruction. They are meant solely to aid classroom teachers in revising their course offerings so as to provide their students with the most essential, up-to-date instruction, organized for maximum efficiency and conveyed with maximum effectiveness.

A second section presents objectives and teaching plans to support effective laboratory instruction. This Guide therefore constitutes a complete program blueprint for a secondary level driver and traffic safety education program.

PROGRAM BACKGROUND

The need for effective driver and traffic safety education is undeniable. Traffic crashes are the major threat to the safety and health of our nation's young people. Roadway accidents are the leading killers of school children of all ages. But, the problem is most severe among teenagers of driving age. Traffic accidents account for nearly half of all deaths among people aged 16-19. This age group, constituting only about eight percent of the population, suffers some 17 percent of all traffic-related fatalities. Put another way, the highway death rate of 16-19 year olds is more than twice what would be expected on a per capita basis.

The dangers are not restricted to teenaged drivers. Teenaged passengers also are at great danger. Starting at age 13 on through age 19, the motor vehicle passenger death rate (per capita) climbs steeply compared to that of other age groups. The majority of teenaged passengers killed are riding with teenaged drivers at the time of their crashes.

ELEMENTS OF THE PROBLEM

Research has demonstrated that people about to become drivers are seriously lacking not only in vehicle handling skills but also in the fundamental knowledges and attitudes that are essential to support safe, efficient vehicle operation. Like many adults, teenagers have little understanding of key concepts and principles underlying safe driving practices and little appreciation of the risks engendered when these principles are violated. Often this problem of "not enough information" is compounded by the problem of misinformation. Many drivers, young and old, have "learned" and firmly believe myths and misconceptions that are detrimental to safe driving.

Aggravating the problem--especially among young people--is a lack of understanding about themselves. Typically, young people fail to recognize and appreciate their personal limitations--the physical and mental limits of human performance and the attitudes, motivations and conditions which can further impair the ability to drive safely and efficiently.

Compounding the lack of skill and understanding is an inability to recognize hazards. Absent the experience on the road which allows seasoned drivers to anticipate trouble from specific traffic or roadway situations, novice drivers often fail to notice the presence of a hazard--or recognize a situation as hazardous--until it is too late to avoid an accident. Though the resulting accident may "teach" youthful drivers to be wary of such situations in the future, it is far more effective and less painful if students can acquire this lesson through information rather than experience.

Beyond these general findings, research has identified a variety of specific factors contributing to teenagers' overinvolvement in crashes. Three of the most critical performance factors--particularly in terms of their contribution to fatal crashes--are alcohol use, excessive speed and failure to wear safety belts. While these factors are typical of fatal accidents regardless of driver age, they pose special problems for young drivers.

Younger drivers face a massive increase in accident risks after consuming relatively modest amounts of alcohol. Among 16- and 17-year-old males, for example, Blood Alcohol Concentrations of less than .05% produce a more than sevenfold increase in normal accident risks. This risk level is unmatched by any other driver age group short of a BAC of .10% or higher (typically, the legally recognized level of outright intoxication).

Similarly, speeding appears to be an especially severe problem among younger drivers. Studies indicate that, compared to older drivers, teenaged drivers speed more excessively, more often, and on all kinds of roads (i.e., in urban and residential areas as well as on freeways and expressways). Given the effect of increased speeds on impact forces, it comes as no surprise that teenaged drivers are especially vulnerable to death and to severe injury when crashes do occur.

The fact that teenaged drivers and passengers are involved in more severe crashes more frequently than others makes it especially important that they protect themselves by using safety belts. Yet, despite this extraordinary need for protection, surveys indicate that youthful drivers are no more likely than older drivers to use safety restraints. And teenaged passengers have been found to use safety belts at a rate significantly lower than that registered by adult passengers.

ADDRESSING THE PROBLEM THROUGH EDUCATION

Improving teenagers' performance in just these three critical areas could significantly reduce both the number and the severity of crashes involving teenagers. Research has shown that well-developed and administered driver education programs can, in fact, improve teenagers' knowledge, attitude and performance in these areas.

To achieve improvement in these specific behavioral areas--and to fulfill its potential as a major contributor to the broader goal of citizenship education--driver education must address the variety of underlying factors that impel many young people to act in a manner--behind-the-wheel and elsewhere--that engenders extreme risks for themselves and others. Thus, driver educators must offer their programs in a manner attuned to their students' personal/psychological characteristics (e.g., anger, rebelliousness, hostility, aggressiveness) and their social/peer environment.

The task facing driver educators is as complex as it is important. Certainly, they must provide the information and experiences that will enable students to acquire basic vehicle handling skills. But, teachers must go far beyond the relatively simple task of familiarizing students with the mechanics of driving. They must also generate within students an understanding and appreciation of the process of driving, the practices and procedures necessary to safe driving, and the principles of safe driving which undergird these procedures and the transportation system as a whole. Additionally, if these goals are to be attained, teachers must provide educational experiences that will equip their students to make responsible decisions in a variety of personal and social contexts--in areas such as alcohol and drug use, resource consumption, and citizenship.

THE GOAL OF DRIVER AND TRAFFIC SAFETY EDUCATION

Research shows that critical (i.e., life-threatening) deficiencies of safe-driving knowledge, attitudes and operating skills are pandemic among beginning drivers--both before licensure and for several years beyond licensure. While the primary motivation leading students to enroll in driver education courses is to get a license, the State's reason for offering the program is to improve students' knowledge, skill, attitude and performance--for both the short- and the long-run--in several areas. Specifically, the objectives of driver and traffic safety education are to enable students to function as:

- safe, efficient motor vehicle operators--able to reduce the risks and costs of highway transportation for themselves and others.
- conscientious road users--able to recognize, accept and exercise their rights, responsibilities and obligations to others who share the highway transportation system.
- responsible citizens--supportive of improved traffic laws, enforcement and system development.

In sum, the ultimate goal of driver and traffic safety education is to help youth acquire the understanding and maturity of adulthood so that they are fully prepared to enter, survive and succeed in the highway transportation system.

PROGRAM ADMINISTRATION AND SUPPORT

Driver and Traffic Safety Education is a national, state and local concern. Laws have been enacted at the federal level and in all states recognizing the critical need to help protect young people through providing a quality driver and traffic safety education experience. Implementation of driver education to deal with young driver needs and problems rests with the local community--more explicitly, with the schools.

The State of Iowa responded to the need to prepare a safe vehicle operator's guide by enacting its first driver education program law in the early '50s. In 1965, the Iowa General Assembly created a state-wide driver education program and required every public school district in the state to make driver education available. Since that time, Driver Education programs have proliferated and quality has been continually upgraded. Since the late '70s, however, program quality and enrollment have declined in many communities.

The support mechanism for quality driver and traffic safety education--established through federal and state legislation--remains in place. However, uniform quality of, and commitment to, a program cannot be legislated. If driver and traffic safety education is to be worth the investment--if it is to help youth--local districts must assume responsibility for operating a quality program.

STATE ROLE

The state is responsible for insuring the overall quality of driver education. Within the state, the authority is delegated to the Department of Education. Section 321.178 of the Code of Iowa specifies that an approved driver education course

> "shall consist of at least 30 clock hours of classroom instruction, and 6 or more clock hours of laboratory instruction of which at least 3 clock hours shall consist of street or highway driving. An approved course shall include a minimum of 2 hours of classroom instruction concerning substance abuse as part of its curriculum."

The Code specifically states that the education course will be "programmed by the Department of Education". In addition to course programming responsibilities, the Department also is assigned responsibility in other areas such as:

- Administering the program in a physically responsible manner.
- Establishing certification requirements for program instructional personnel.
- Supporting personnel improvement activities.
- Maintaining liaison with local school representatives and community and professional groups.
- Engaging in other activities to improve the quality of driver education offerings.

In dispatching these responsibilities, the department must adhere to the statutes of the state and its own established policies and procedures. Title VI, chapter 6 of the Iowa Administrative Code specifies specific standards for personnel certification and approval, time standards, insurance coverages and the like.

FINANCIAL SUPPORT

Driver and Traffic Safety Education costs result from program administration, instruction, facilities, program equipment, materials, supplies and other operating expenses.

State Funding

The Iowa General Assembly enacted legislation in 1965 that created a statewide program of driver education. It required every public school district in the state to offer or make available driver education. Recognizing that this responsibility would involve additional expenses for school districts, the Legislature authorized reimbursement amounting to $30 for each student who completed an ap-

proved driver education program. This amount was intended to provide funding of 30 to 50 percent of the total cost, which varied among the school districts.

Ensuing years produced an increased number of students completing driver education and also an increased cost of providing it. For a number of consecutive years, consideration was given to increasing the amount of per student reimbursement, but without any increase resulting.

In 1975, the General Assembly enacted the foundation aid process which is still in effect. Sections 321.178 and 442.7 of The Code contain the modifications made that year. The change was based on the need for increased funding of driver education and a process was instituted that would not be dependent on repeated consideration of appropriation increases every year or two.

The change was made by increasing the foundation aid appropriation with driver education funding based on per student enrollment (K-12). The short-term advantage was an automatic increase in funding for driver education each year as the school aid formula was adjusted.

Other advantages were the simplified accounting procedures on both district and state levels. State payments for driver education are now included in the general foundation aid provided to school districts each quarter. Districts no longer need to wait until the end of the school year--and the completion of driver education programs--before applying for, and receiving, reimbursement.

In 1975, the General Assembly increased the state foundation aid by .3 percent for driver education. This meant that a certain part of the general foundation aid was designated for driver education. This process has remained unchanged since then, although the amounts have increased automatically each year. The per student enrollment amount (initially $4.00) has risen each year since that time. For 1988-89, it is estimated the foundation aid will amount to $9.24 per K-12 enrolled student.

Local Funding

The principal funding for quality driver education programs comes from the local district. In driver education, as with any education service, districts can expect to make a financial contribution. Driver education, however, is unique in its offering of practical experience to students. Providing this experience is more costly than providing purely academic experiences.

Schools may elect to fund driver education, less the reimbursed amount, entirely from district funds. Also, under current law, a student laboratory fee may be assessed.

OVERVIEW OF CLASSROOM CURRICULUM

The curriculum, presented in the following sections, provides a framework for supporting at least 30 hours of classroom instruction. Each of its six distinct, but inter-related, units of instruction has been prepared in a lesson format. The Guide identifies knowledge and attitude objectives, key content to be covered, the order in which to present it and appropriate teaching methodologies and aids.

Though the Guide recommends certain teaching methods be used in covering key content areas, it does <u>not</u> prescribe specific instructional activities. The selection and forming of specific activities to be used are left to each teacher's discretion. Teachers must respond to the instructional needs and interests of each class, as well as to the administrative realities of their programs, in preparing their lesson plans.

CURRICULUM PRIORITIES

As can be inferred, from the preceding paragraph, teachers must have leeway in using these lesson plans. Because the curriculum encompasses a great deal of content, and because many teachers are limited to only the minimum 30 hours of classroom instruction, it may be incumbent upon many teachers to prepare lesson plans less comprehensive in scope than the curriculum guide. To aid teachers in establishing priorities, the chart on the following page has been prepared.

CLASSROOM UNIT PRIORITIES

CLASSROOM CURRICULUM UNITS	CRITICAL OBJECTIVES: Must Be Acquired Thru. D.E.Classroom	CRITICAL OBJECTIVES: Must Be Acquired	SUPPORT OBJECTIVES
UNIT I: Introduction	X		
UNIT II: Basic Control		X	
UNIT III: System Interaction			
SIPDE	X		
Rules of the Road	X		
Seeing	X		
Communicating	X		
Managing Speed	X		
UNIT IV: Driving Environment	X		
UNIT V: Critical Situations			
Skid Recovery		X	
Collision Avoidance			X
Vehicle Failure			X
Controlling Accident Scene			X
UNIT VI: Factors Influencing Performance & Survivability			
Safety Restraints	X		
Alcohol	X		
Other Drugs		X	
Fatigue		X	
Emotions		X	
Vehicle Factors		X	

This chart places curriculum content areas in one of three categories: (1) critical objectives that must be acquired through classroom instruction, (2) critical objectives that must be attained, though not necessarily through classroom instruction, and (3) objectives which, while important to comprehensive driver education, are of lesser importance to the safety of young drivers.

Unit topics or subtopics have been placed in the second category if students can be expected to attain the objectives on their own (e.g., learning the types of permits and licenses and the requirements for obtaining them through independent study of the Iowa Driver Manual), or through non-classroom means (e.g., basic vehicle control and maneuvering through laboratory sessions or practice driving with parents), or in non-driver education classes (e.g., effects of drugs, fatigue and emotions through health courses). Topics and sub-topics have been placed in the third category if they address safe performances required only rarely (e.g., emergency driving skills and controlling the scene of an accident) or if they focus on subjects not immediately concerned with safe driving performance (e.g., consumerism, the driver control system).

OVERVIEW OF UNITS

Guidance for each unit of is presented in a lesson plan which provides:

1.Instructional objectives,

2.A summary of instructional methods and aids best able to convey critical content with maximal efficiency and effectiveness,

3.An outline of content supporting attainment of the unit's objectives.

The instructional objectives identified for each unit are limited to knowledge and attitude objectives--those objectives which can be attained through classroom educational experiences. These objectives state requirements for participating in the highway transportation system.

In attaining these objectives, students will acquire and understand concepts and principles which facilitate--through laboratory practice--the development of motor skills essential to safe, efficient driving. Thus, achieving the objectives presented, while constituting a valid, worthwhile educational goal in and of itself, should be regarded also as an intermediate step toward achieving the ultimate performance objectives for drivers using the highway transportation system.

The Guide does not specify particular instructional aids--textbooks, filmstrips, etc--for use with the units, as no one aid is available to all classrooms. Additionally, as new materials come on the market every year, any list of recommended aids would be incomplete and outdated almost as soon as it was distributed. Teachers are expected to acquaint themselves with the aids that are available and to incorporate into their lesson plans those which they deem able to facilitate attainment of student learning objectives.

Some visual aids are provided in the Guide. Their use is recommended, but not required. While they can facilitate acquisition of key knowledges, the instructional content is not predicated upon their use.

UNIT I: Introduction

This unit stresses why driver education is an important, and quite serious, educational endeavor. After acknowledging the student's reasons for wanting to take driver ed, it presents the rationale for offering driver education from the perspective of enhanced mobility and safety. It also introduces students to the concept of risk and their role within the highway transportation system. It concludes with a brief overview of the entire course.

Content and instructional methods recommended for this unit will help students to:

- Recognize the importance and extent of responsibilities that accompany licensure,
- Approach driver education as a true learning experience,
- Recognize that driver education can enhance both the quality of their lives and their longevity.

UNIT II: Basic Control

This unit covers: outside vehicle checks, pre-start in-vehicle adjustments and procedures; procedures and legal requirements for starting, moving, turning, stopping and securing the vehicle. The unit concludes by addressing the skills and abilities needed to back, park and make turnabouts successfully. While legal requirements governing these maneuvers are addressed, emphasis is placed on the visual and physical performances needed to assure safety during these maneuvers. Principles and procedures of safe, basic maneuvering help lay a foundation for safe performance in more complex traffic situations.

Content and instructional methods recommended for this unit will help students to:

- Follow appropriate pre-starting procedures,
- Use safe and efficient vehicle starting procedure,
- Put the vehicle in motion and retain forward control,
- Stop the vehicle smoothly at required locations,
- Accelerate safely and efficiently on grades,
- Maintain directional control while making left and right turns,
- Follow safety procedures in exiting vehicles,
- Maintain vehicle control while backing on straight and curved paths,
- Turn vehicle around in the roadway providing limited operating space,
- Park vehicle within legal and physical constraints posed by parking space,
- Withdraw vehicle safely and legally from parallel and angle parking spaces.

UNIT III: System Interaction

This unit describes principles and procedures for interacting with the highway transportation system, including the road, other drivers and other vehicles. Techniques of seeing, communicating, managing speed and managing space are presented, and their rationale explained. Legal, safety and efficiency principles undergirding these techniques are explained in the context of specific driving tasks and their application to driving situations in general.

Content and instructional methods recommended for this unit will help students to:

- Employ seeing techniques that allow them to gather, effectively and efficiently, critical information from ahead, behind and alongside the vehicle,

- Maintain space all around the vehicle sufficient to permit legal, safe, efficient and timely maneuvering,
- Abide by all speed laws and operate at a speed in which vehicle control is maintained and maneuvers may executed safely and efficiently,
- Signal and communicate with other road users in keeping with requirements of safe, legal vehicle operation.

UNIT IV: Driving Environment

This unit covers practices that can help drivers operate safely in situations where the roadway or the natural environment provides less-than-ideal conditions. The thrust of the unit is on principles and practices drivers can employ to compensate for dangerous conditions--i.e., reduced traction, reduced visibility and night driving--thereby preventing them from developing into emergency situations.

Content and instructional methods recommended for this unit will help students to:

- Search for and recognize roadway characteristics that result in lessened traction,
- Adjust normal driving practices to compensate for conditions that reduce traction,
- Adjust driving practices during periods of limited visibility to improve capability to see and to control the vehicle within the visual limits,
- Employ driving practices to increase others' capacity to see during periods of limited visibility,
- Compensate for hazards imposed by nighttime operation.

UNIT V: Critical Situations

This unit covers common emergencies resulting from roadway characteristics, vehicle equipment malfunctions and driver error. Instruction focuses on procedures to use when confronted with such emergencies. In addition to addressing emergency recovery procedures for skidding, running off the roadway and vehicle equipment failures, the unit covers procedures for quick accelerating, quick stopping and quick turning, providing guidance on selecting the appropriate emergency response. The unit concludes with instructions on what to do if an accident does occur.

Content and instructional methods recommended for this unit will help students to:

- Take appropriate evasive action to avoid collisions,
- Employ procedures to regain vehicle control when it has been lost,
- Follow emergency procedures to keep vehicle or equipment failures from producing collisions,
- Follow safe and legal procedures at an accident scene,
- Seek life-saving assistance and provide first aid at an accident scene.

UNIT VI: Factors Influencing Performance and Survivability

This unit presents safety belts as the best way to reduce the chances of injury and increase the chances of surviving in a crash. It explains how safety belts work and debunks common myths and misconceptions regarding their use. The unit also covers personal factors that may influence--and ultimately impair--a driver's ability to operate at peak performance levels. Although fatigue, emotions and drug use are addressed, the focus here is primarily on alcohol. The alcohol section concentrates on risks and consequences of drinking/driving and presents students with techniques they can use to keep themselves and others from accepting these risks and suffering the consequences. The unit concludes by addressing factors that inhibit optimal vehicle performance, presenting basic maintenance checks which will help drivers keep their vehicles in safe, legal operating condition.

Content and instructional methods recommended for this unit will help students to:

- Use safety restraints on all trips whether riding as drivers or passengers,
- Require their passengers to use safety restraints,
- Avoid excessive drinking,
- Avoid driving when under the influence of alcohol,
- Help protect others by keeping them from overdrinking, driving when impaired, or riding with an impaired driver,
- Follow directions for use when taking prescription and over-the-counter drugs,
- Avoid combining alcohol with other drugs,
- Plan and take measures to avoid driving when fatigued,
- Plan and take measures to avoid fatigue when driving,
- Avoid riding with fatigued drivers,
- Avoid driving when emotionally upset,
- Avoid driving unsafe vehicles.

ORGANIZATION OF UNITS

The sequence of instruction recommended in the Guide is considered to be optimal in terms of efficacy of learning for people who have enrolled to learn to drive. The sequence may not be optimal for educating students who have accumulated significant driving experience prior to beginning the course. Units have been ordered to allow the classroom instructional experience to:

- Be responsive to non-driver's motivations for taking the course
- Be applied and experienced immediately thereafter in laboratory instruction
- Reinforce and build upon concept and principles--the learning base--established in earlier units.

Student Motivations

As students typically enroll in the course with one goal in mind--to learn to drive--the organization responds as quickly as possible by presenting fundamental "learn to drive" instruction immediately after a brief (one period) introductory unit. By providing students with core information on how to drive during the second classroom session, students' expectations of the course will not be frustrated. To postpone providing this information (by using the second class period to review the rules of the road or licensing requirements, for example) would invite student disinteresting and dissatisfaction with, the course. Such a situation would serve only to make it harder for teachers to lead students to attain the crucial instructional objectives.

Each unit builds further on the foundation laid by preceding units, leading motivated students through safe driving instruction and other units critical to their survival when driving.

Immediate Application

A basic tenet of education is that students learn more fully and more quickly when they personally experience the usefulness, accuracy or truth of what they have acquired through mental processes. The classroom units have been sequenced to mesh with concurrent laboratory instructional activities which provide the opportunity to learn more fully by doing.

Students cannot be expected to develop skills efficiently during behind-the-wheel instruction, unless they have acquired information on driving procedures prior to this instruction. By starting with basic vehicle control instruction and moving thence to basic maneuvers, students have the opportunity to apply immediately what they have learned in class, either on the range or on the road. After acquiring these fundamental skills, students can move on to hone their performance in safe and efficient practices.

This provision for timely application of classroom instruction allows for maximum reinforcement of the concepts, principles and procedures covered in class. Students simply have no time in which to forget the content--thus making for more efficient, stronger instruction over all.

Learning Base Enhancement

Just as the course is ordered to accommodate reinforcement through on-the-road experience, so it is organized to provide for expansion of classroom instruction. Thus, instruction follows a logical progression:

- **Unit I** -- students learn what the instructor expects of them
- **Unit II** -- students learn basic vehicle control and maneuvering
- **Unit III** -- students learn the essential human processes involved in applying these manipulative skills properly and learn practices for operating with maximum safety and efficiency day-to-day
- **Unit IV** -- students learn how to keep dangerous situations from turning into emergencies

- **Unit V** -- students learn how to keep emergencies from turning into accidents
- **Unit VI** -- students learn how to keep accidents from producing injuries and how to keep themselves and their vehicles in shape so that they may realize the maximum benefit from the driving skills and knowledge they have acquired.

Through this sequence, each unit provides students with new, critical knowledges and attitudes and lays the foundation for understanding the more complex instruction offered in later units. In this fashion, the course weaves the various concepts and principles of safe driving into a coherent whole, allowing students to grasp the complimentary relationships among driving practices and procedures.

ORGANIZATION OF CONTENT

Curriculum content is assembled in terms of general principles rather than by driving situations or specific procedures. For example, the unit on system interaction is organized according to the basic principles of seeing, communicating with others, managing speed and managing space. Students are taught how these basic principles apply to every day driving and how they should be employed on the road.

This organization makes for more efficient use of classroom time. As an example, students can quickly grasp the concept of maintaining an adequate following distance and how that distance must be increased in less than ideal traffic or road conditions or when visual obstacles arise. Teaching this information by specific situations (e.g., driving in cities, driving on highways, driving behind trucks, driving in snow, driving at night, driving behind motorcycles) is far more time consuming and may, in fact, inhibit student's comprehension of a relatively simple concept.

Similarly, there is no separate section on traffic laws. Traffic safety law is firmly rooted in safe driving principles. By incorporating traffic law instruction with coverage of its undergirding principle (e.g., stop signs and seeing, yield signs and space management), students' understanding of safe driving principles is strengthened and their appreciation of the validity of traffic laws is increased.

TIME ALLOCATIONS

No specific amount of time have been assigned to units of instruction or elements within units. Time allocations must be assigned locally in terms of the total amount of time available to driver education. However, a suggested time allocation based on a 30-hour curriculum is provided below. Where more than 30 clock-hours of instructional time is available, the time spent on each unit should be increased proportionately.

UNIT	NAME OF UNIT	# OF HOURS
I	INTRODUCTION	1
II	BASIC CONTROL	5
III	SYSTEM INTERACTION	10
IV	DRIVING ENVIRONMENT	4
V	CRITICAL SITUATIONS	2
VI	FACTORS INFLUENCING PERFORMANCE AND SURVIVABILITY	8
		30

Time has been allocated among the units in consideration of the following factors:

- Relative criticality -- While all topics delineated in the course of instruction are considered critical to the goals of driver and traffic safety education, some are more critical than others. For example, practices which can help drivers keep out of crashes in

everyday driving conditions will be of more frequent use to drivers than practices that help them cope with far less frequently encountered situations (e.g., brake failure, hood latch failure).

- Direct applicability to performance -- While certain knowledges are critical to a full understanding of driving in the highway transportation system, not all are critical to safe performance on the road. For example, use of the SIPDE process may be helpful as an interim step in handling situations on the road. However, an understanding of the SIPDE process is of little use in and of itself on the road. For topics such as this, it is necessary to communicate only key principles. Time that might be expended on a detailed exploration of SIPDE can be put to better use on topics which are directly tied to what students must consciously do to drive safely and efficiently.
- Relative complexity -- Some concepts, principles and procedures are more complex than others. Instruction in the more complex areas demands more time than is required to communicate more familiar or more apparent information.
- Instructional methodology -- Some instructional objectives can be achieved through simple presentation of information. Other objectives, especially attitudinal objectives in areas such as drinking/driving, safety restraint use and speed management, are harder to achieve. These require more time-consuming methodologies such as discussion or role playing.

Time allocations must be adjusted to student learning abilities and needs. For example, if classroom and laboratory sections are not conducted concurrently, more time may have to be spent on the second unit to assure comprehension of the content. Teachers must judge when students have attained the objectives of any given unit sufficiently to justify moving on to the next.

INSTRUCTIONAL METHODS

The curriculum recommends that teachers use a variety of instructional techniques: home study assignments, presentation and interactive teaching. Where particular instructional method is most efficacious, it is noted at the start of the content section. Selection of most appropriate technique was based on two considerations:

- Effectiveness -- Some methods that are effective in helping students attain knowledge objects are ineffective in leading them to embrace improved attitudes. Others are useful in both of these areas, but incapable of improving behaviors. Methods must therefore attuned to the types of educational objectives being pursued.
- Efficiency -- Given the time allocations for each unit, it's essential to use a teaching method capable of accomplishing the instructional objectives in the shortest period of time.

The uses and limitations of the various methods called for are discussed briefly in the following paragraphs.

Home Study Assignments

Home study is the most time-efficient means of communicating information, as it requires no classroom time to provide students with key knowledges. It does have two major limitations, however. First, the printed word and static illustrations cannot fully communicate the dynamics of driving and the forces involved with these dynamics. This limitation is greatest when readers have little or no behind-the-wheel experience to help them relate "mere words and pictures" to real-world driving situations. To some extent, this limitation may be overcome through use of home study assignments which involve students, parents and other family members who drive. There's no need to limit family involvement in driver education to behind-the-wheel instruction. Students can learn from the experiences and knowledge of others in their families as well as from their teachers.

The greatest potential liability in family involvement via home study assignments is that students may acquire misinformation as well as correct information through this channel. Thus, teachers must be prepared to uncover and correct misconceptions, erroneous "facts" and unsafe beliefs emerging from such assignments. Conversely, an advantage of parent involvement through home study is that it

provides a mechanism for getting safe driving information to other family members, thereby extending the reach of driver education beyond a communities student population. Additionally, involving parents in their child's study tends to foster their support for driver education.

The second limitation of home study assignments is that merely assigning home study in no way assures that students will read the material, much less understand it. To overcome this limitation, students must know they will be held responsible for acquiring the information available through home study. Take home tests, pre-tests and periodic classroom reviews of information covered through home-study assignments will increase student's motivations to study at home conscientiously. Such testing and review also can help teachers assess student achievement of home-study learning objectives.

Research has demonstrated that home study is an effective means of improving driver knowledge and attitude provided it is combined with other sufficient motivation (in the form of tests and reviews) to complete the assignments. It is suggested that 10-15 hours of quality homework represents a reasonable assignment load for students. The bulk of these assignments should be devoted to units which are highly cognitive in nature and where materials are available.

The Iowa Driver Manual is the only home-study resource identified in the curriculum, as it is the only aid universally available to students and teachers. Teachers should also take advantage of textbooks available at the school in developing home study assignments.

Presentation

Presentation--either by the teacher, resource persons, or through surrogate teachers such as films or videos--is the most time-efficient means of conveying key information, concepts and principles to students in the classroom. Naturally, the effectiveness of presentations depends in large measure on the skill of the presenter and the students' perception of and openness to both the presentation and the presenter.

However, research demonstrates that even the best presentations are limited in terms of what they can accomplish. Presentations are quite good at helping students acquire knowledge. But many students are unlikely to believe the information is personally relevant and to act upon that information unless presentations are supplemented with interactive instructional methods such as class discussion.

Interactive Instruction

A substantial body of research indicates that peer-facilitated instruction--in the form of question and answer sessions, group discussions, problem-solving and role playing--may be more effective than instructor presentations.

Whatever the reasons, peer-facilitated instruction appears to be successful on breaking down the barriers that inhibit teenagers from believing information presented by adults. Additionally, interactive instruction keeps students on their toes and interest levels high.

Group discussion is an especially effective means of leading students to embrace attitude objectives. In areas such as safety belt use, drinking and speeding, students often hold unsafe attitudes based on myths. When students have been provided with the facts which counter these myths, hearing unsafe attitudes expressed by others in the group often causes the "scales to fall from their eyes." Misinformation and unsafe beliefs suddenly ring hollow. The result is often an improvement in attitude.

While discussion can be very effective in achieving attitude objectives, it has some disadvantages:

- It is very time consuming compared to most other methods.
- It requires great skill from teachers, who must help guide the discussion toward the desired outcome (student concensus accepting safe attitudes) without being seen as trying to impose attitudes on students.

- There is no guarantee that the final concensus will be exactly in keeping with the objectives.

Another effective interactive teaching technique is problem solving. When posed with problematic situations and asked to "solve it" (reduce the risks inherent in the depicted situation), students are forced to internalize and apply concepts and principles of safe driving. This process allows students to understand and appreciate more fully the soundness of these principles, thereby increasing the likelihood that they will employ practices based on these principles when they drive.

CLASSROOM LESSON PLANS

This unit contains lesson plans for the following classroom units:

Unit I: Introduction

Unit II: Basic Control

Unit III: System Interaction

Unit IV: Driving Environment

Unit V: Critical Situations

Unit VI: Factors Influencing Performance and Survivability

Unit sections will contain the following information:

Instructional objectives--a description of the knowledge and attitudes that students are expected to acquire.

Content outline--information to be taught, presented in outline form.

Visuals--the identification number of the visual (from the appendix) appropriate to the content.